

Lipomodeling to improve Aesthetic results after Breast-Conserving Surgery

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Introduction

Fat grafting (Lipofilling) has shown very satisfactory results in facial rejuvenation. We transposed the technique to breast plastic surgery and called this technique Lipomodeling. We started to use lipomodeling since 1998 to enhance the volumes of our reconstructions using the extended autologous latissimus dorsi. With the efficiency of the technique acquired, we extended the indication to volume and contour enhancement after TRAM flaps and implant reconstruction. And finally we applied this technique of lipomodeling since 2002 for the breast conservative treatment sequelae.

Material and methods

We report an experience of 100 consecutive cases from 2002 to 2009 of lipomodeling to improve cosmetic results after Breast-conserving surgery. Detailed clinical and radiological data of the patients have been collected.

The patients were followed regularly. The morphological result was assessed by 2 surgeons and the patient satisfaction was annotated. The volume stability and the consistency of the breast were studied. The initial and secondary complications were carefully indexed. Also, the oncological events have been carefully indexed

Results

The stability of the volume is obtained at 3 months post-operative and approximately 60 to 70 % of the transferred volume persists with a long term follow up (confirmed by a 3D imaging study, currently in place in our department). The evaluation of the aesthetic results showed a significant improvement in all the cases. In the severe deformities, the procedure was repeated, each procedure improving the efficiency of the coming lipomodeling and reaching the expected satisfactory outcome.

These data demonstrate: the feasibility of lipomodeling; the technique is simple but requires a learning curve to avoid cytosteatonecrotic lesions; the excellent results obtained in terms of shape and softness of the breast; no surgical implant or flap reconstruction is necessary; the reliability of the procedure: there is normal fat wasting within the first months after treatment, then results stabilize as the patient maintains a stable weight; the small number of side-effects: only rare, predominantly infectious (2%), which rapidly resolve with antibiotics.

However, the technique has also been questioned because of the possible deleterious radiological impact of injecting fat into the breast. The present work investigated the radiological aspect of conserved breast reconstructed by lipomodeling undergoing ultrasound examination, mammography and MRI before and after the procedure. Benign-looking microcalcifications were detected on 19% of the mammographies, small (<1cm) oily cysts and complex cysts were visible on respectively 57% and 19% of ultrasound images, whereas 47% of the MRI scans indicated cytosteatonecrotic lesions. Even though multiple events could be observed, their frequency is close to that observed following other conventional breast surgery, or oncoplastic surgery. Besides, there is clear radiological evidence of benignity. The conclusion of the study is that images obtained after lipomodeling are satisfactory and in no way suggestive of recurrence of breast cancer. Provided that radiologists and experts are aware of this pattern, there is no impact on the radiological follow-up of the patients.

Conclusions

In conclusion, the fat transfer approach presented here represents a considerable advance for the management of moderate sequelae of conservative breast treatment. Using this technique makes it possible to restore the shape and softness of the breast better than any other surgical procedure before, particularly for patients with mild breast deformity. However this approach needs the plastic surgeon to have a learning curve in lipomodeling after breast reconstruction to limit the rate of fat necrosis; and the radiologist must be a part of the team for the preoperative screening and the postoperative follow-up.

References

- **1** - Delay E, Garson S, Toussoun G, Sinna R.
Fat injection to the breast: technique, results, and indications based on 880 procedures over 10 years.
Aesth Surg Journal 2009; 29: 360-76
- **2** - Delay E. Lipomodeling of the reconstructed breast.
In: Spear S E, ed. *Surgery of the breast: Principles and Art*, 2d Ed.
Philadelphia: Lippincott Williams and Wilkins, 2006: 930-46.
- **3** - Delay E. Breast deformities.
In: COLEMAN S R, MAZZOLA RF, eds. *Fat injection: from Filling to Regeneration*.
Saint Louis: Quality Medical Publishing (QMP), 2009: 545-86.
- **4** - Delay E.
Correction of partial breast deformities with the lipomodeling technique.
In: KUERER H, Ed. *Textbook of Breast Surgical oncology*. New York: Mac Graw-Hill,
2010 : 815-25.
- **5** - Delay E, Gosset J, Toussoun G, Delaporte T, Delbaere M. Séquelles thérapeutiques du sein après traitement conservateur du cancer du sein. *Ann Chir Plast Esthét* 2008;53:135-152.
- **6** - Gosset J, Guerin N, Toussoun G, Delaporte T, Delay E. Aspects radiologiques des seins traités par lipomodelage après séquelles du traitement conservateur du cancer du sein. *Ann Chir Plast Esthét* 2008;53:178-189.
- **7** - Gosset J, Flageul G, Toussoun G, Guerin N, Tourasse C, Delay E. Lipomodelage et correction des séquelles du traitement conservateur du cancer du sein. Aspects médico-légaux. Le point de vue de l'expert à partir de 5 cas cliniques délicats. *Ann Chir Plast Esthét* 2008;53: 190-198.